

Notice of Allowability

Application No.

10/099,807

Applicant(s)

GETZINGER ET AL.

Examiner

Art Unit

HUNG Q PHAM

2162

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 01/03/2005.
2. ☒ The allowed claim(s) is/are 12-18 and 29-34.
3. ☒ The drawings filed on 14 March 2002 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).


* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit
of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☒ Interview Summary (PTO-413),
Paper No./Mail Date 041205.
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____.


SHAHID ALAM
PRIMARY EXAMINER

DETAILED ACTION

Response to Arguments

- According to the amendment of Claims 15 and 32 filed 01/03/2005, applicant's request for withdrawing the objection is has been fully considered and, the objection of Claims 15 and 32 is withdrawn.
- Applicant's arguments with respect to the rejection of Claims 12 and 29 under 35 U.S.C § 112 as failing to comply with the written description requirement have been fully considered and are persuasive. The rejection of Claims 12 and 29 under 35 U.S.C § 112, first paragraph has been withdrawn.

EXAMINER'S AMENDMENT

- An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.
- Authorization for this examiner's amendment was given in a telephone interview with Ronald M. Anderson on 04/12/2005.

Replace claim 12 in the Amendment filed on 01/03/2005 by the clean version (without underlined and crossed mark) amended by examiner as below:

(Claim 12) *A computer-implemented method for automatically compressing each of a set of image files to produce compressed image files, so that a total size of the compressed image file does not exceed a predefined limit, comprising the steps of:*

(a) *processing the image files to determine a maximally compressed file size for each image file when compressed to a predefined minimum quality level and to determine a nominal compressed file size when compressed to a nominal quality level, and to determine a weight for each image file based upon a high frequency energy content of the image file;*

(b) *identifying image files of the set that are to be compressed with the predefined minimum quality level as a function of:*

(i) *the maximally compressed file size of each image file when compressed to the predefined minimum quality level; and*

(ii) *the weight of each image file;*

(c) *for all other image files of the set that were not identified to be compressed with the predefined minimum quality level in step (b), determining a quality level for compressing the other image files so that each of the other image files is compressed to a desired size selected as a function of the weight of the image file and so that the total size of the compressed image files is not exceed the predefined limit; and*

(d) *compressing the image files identified in step (b) with the predefined minimum quality level, and all of the other image files not identified in step (b) with the quality level that was determined in step (c).*

Replace claim 13 in the Amendment filed on 01/03/2005 by the clean version
(without underlined and crossed mark) amended by examiner as below:

(Claim 13) *The method of Claim 12, further comprising the step of limiting the quality level that is used for compressing the image files to a predetermined range that extends from the predefined minimum quality level to a substantially higher predefined maximum quality level.*

Replace claim 14 in the Amendment filed on 01/03/2005 by the clean version
(without underlined and crossed mark) amended by examiner as below:

(Claim 14) *The method of Claim 12, further comprising the step of determining a scaling factor based upon a currently available space remaining for the compressed files within the predefined limit and a total of the weight of all of the other image files, wherein the step of identifying image files that will be compressed with the predefined minimum quality level is repeated in successive passes through the set of image files, until a pass through the set of image files is completed without identifying any additional image file to be compressed to the predefined minimum quality level.*

Replace claim 15 in the Amendment filed on 01/03/2005 by the clean version
(without underlined and crossed mark) amended by examiner as below:

(Claim 15) *The method of Claim 12, wherein the step of determining the quality level that will be used for compressing the other image files in step (c) comprises the steps of:*

(a) *determining a desired size for the compressed image file for each of the other image files in the set that was not identified in step (b) of Claim 12, said desired size for the compressed image file being determined as a function of the weight of the image file;*

(b) *determining an optimal quality level to apply to each of the other image files to achieve the desired size when the image file is compressed; and*

(c) *determining a difference between the desired size and an actual size of the image file when it is compressed to the optimal quality level.*

Replace claim 16 in the Amendment filed on 01/03/2005 by the clean version
(without underlined and crossed mark) amended by examiner as below:

(Claim 16) *The method of Claim 15, wherein the step of determining the optimal quality level for each image file comprises the steps of:*

(a) *starting with the nominal quality level, determining if the nominal compressed file size is less than the desired size by no more than a predefined difference, and if so, assigning the nominal quality level as the optimal quality level; and if not,*

(b) reducing a range from which to select a new quality level to try as the optimal quality level when compressing the image file, where the new quality level is determined using a model relating image quality to compressed file size;

(c) determining if the compressed file size resulting from compressing the image file using the new quality level is less than the desired size by no more than the predefined difference, and if so, assigning the new quality level as the optimal quality level; and if not,

(d) repeating step (b) and step (c) of this claim with successive new quality levels, until the optimal quality level is determined.

Replace claim 17 in the Amendment filed on 01/03/2005 by the clean version
(without underlined and crossed mark) amended by examiner as below:

(Claim 17) The method of Claim 12, wherein the predefined limit is selected based upon one of:

(a) a storage capacity of a storage medium on which the compressed image files are to be stored; and

(b) a maximum permissible size of an attachment to an email, wherein the attachment comprises the compressed image files.

Replace claim 18 in the Amendment filed on 01/03/2005 by the clean version
(without underlined and crossed mark) amended by examiner as below:

(Claim 18) A memory media on which are stored machine instructions for carrying out the steps of Claim 12.

Replace claim 29 in the Amendment filed on 01/03/2005 by the clean version
(without underlined and crossed mark) amended by examiner as below:

(Claim 29) A system for automatically compressing each of a set of image files to produce compressed image files, so that a total size of the compressed image files does not exceed a predefined limit, comprising:

(a) a memory in which are stored a plurality of machine instructions, said memory also storing the set of image files;

(b) a processor that is coupled to the memory, said processor executing the plurality of machine instructions, causing the processor to:

(i) determine a maximally compressed file size for each image file when compressed to a predefined minimum quality level and determine a nominal compressed file size when compressed to a nominal quality level, and determine a weight for each image file based upon a high frequency energy content of the image file;

(ii) identify image files that are to be compressed with a predefined minimum quality level as a function of:

(1) the maximally compressed file size of each image file when compressed to the predefined minimum quality level; and

(2) the weight of each image file;

(iii) for all other image files of the set that were not identified to be compressed with the predefined minimum quality level in subparagraph (ii), determining a quality level for compressing the other images files so that each of the other image files is compressed to a desired size selected as a function of the weight of the image file and so that the total size of the compressed image files is not exceed the predefined limit; and

(iv) compressing the image files identified in subparagraph (ii) with the predefined minimum quality level, and compressing all the other image files not identified in subparagraph (ii) with the quality level that was determined in subparagraph (iii).

Replace claim 30 in the Amendment filed on 01/03/2005 by the clean version
(without underlined and crossed mark) amended by examiner as below:

(Claim 30) The system of Claim 29, wherein the machine instructions cause the processor to limit the quality level that is used for compressing the image files to a predetermined range that extends from the predefined minimum quality level to a substantially higher predefined maximum quality level.

Replace claim 31 in the Amendment filed on 01/03/2005 by the clean version
(without underlined and crossed mark) amended by examiner as below:

(Claim 31) *The system of Claim 29, wherein the machine instructions cause the processor to determine a scaling factor based upon a currently available space remaining for the compressed files within the predefined limit and a total of the weight of all of the other image files, and to repeat the identification of image files that will be compressed with the predefined minimum quality level in successive passes through the set of image files, until a pass through the set of image files is completed without identifying any additional image file to be compressed to the predefined minimum quality level.*

Replace claim 32 in the Amendment filed on 01/03/2005 by the clean version
(without underlined and crossed mark) amended by examiner as below:

(Claim 32) *The system of Claim 29, wherein the machine instructions cause the processor to determine the quality level that will be used for compressing the other image files in subparagraph (iii) by:*

- (a) determining a desired size of the compressed image file for each of the other image files in the set that was not identified in subparagraph (ii) of Claim X29, said desired size being determined as a function of the weight of the image file;*
- (b) determining an optimal quality level to apply to each image file to achieve the desired size when the image file is compressed; and*
- (c) determining a difference between the desired size and an actual size of the image file when it is compressed to the optimal quality level.*

Replace claim 33 in the Amendment filed on 01/03/2005 by the clean version
(without underlined and crossed mark) amended by examiner as below:

(Claim 33) *The system of Claim 32, wherein the machine instructions cause the processor to determine the optimal quality level for each image file by:*

- (a) starting with the nominal quality level, determining if the nominal compressed file size is less than the desired size by no more than a predefined difference, and if so, assigning the nominal quality level as the optimal quality level; and if not,*
- (b) reducing a range from which to select a new quality level to try as the optimal quality level when compressing the image file, where the new quality level is determined using a model relating image quality to compressed file size;*
- (c) determining if the compressed file size resulting from compressing the image file using the new quality level is less than the desired size by no more than the predefined difference, and if so, assigning the new quality level as the optimal quality level; and if not,*
- (d) repeating step (b) and step (c) of this claim with successive new quality levels, until the optimal quality level is determined.*

Replace claim 34 in the Amendment filed on 01/03/2005 by the clean version
(without underlined and crossed mark) amended by examiner as below:

- (Claim 34) The system of Claim 29, further comprising a storage medium on which the compressed image files are stored, wherein the machine instructions cause the processor to select the predefined size limit based upon one of:*
- (a) a storage capacity of the storage medium; and*
 - (b) a maximum permissible size of an attachment to an email, wherein the attachment comprises the compressed image files.*

REASONS FOR ALLOWANCE

Claims 12-18 and 29-34 (renumbered as 1-13) are allowed.

The following is an examiner's statement of reasons for allowance:

The closest available prior arts, USP 6,195,462 B1 and 5,974,182, issued to Bryniarski et al., also teach a computer method and system for compressing image files. However, both of the references fail to teach or suggest the claimed: *(c) for all other image*

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files of the set that were not identified to be compressed with the predefined minimum quality level in step (b), determining a quality level for compressing the other image files so that each of the other image files is compressed to a desired size selected as a function of the weight of the image file and so that the total size of the compressed image files is not exceed the predefined limit; and (d) compressing the image files identified in step (b) with the predefined minimum quality level, and all of the other image files not identified in step (b) with the quality level that was determined in step (c) as in claim 12, and (iii) for all other image files of the set that were not identified to be compressed with the predefined minimum quality level in subparagraph (ii), determining a quality level for compressing the other images files so that each of the other image files is compressed to a desired size selected as a function of the weight of the image file and so that the total size of the compressed image files is not exceed the predefined limit; and (iv) compressing the image files identified in subparagraph (ii) with the predefined minimum quality level, and compressing all the other image files not identified in subparagraph (ii) with the quality level that was determined in subparagraph (iii) as in claim 29.

Therefore, the invention is allowable over the prior arts including the providing steps as indicated above.


Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to HUNG Q PHAM whose telephone number is 571-272-4040. The examiner can normally be reached on Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, JOHN E BREENE can be reached on 571-272-4107. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Examiner Hung Pham
April 13, 2005


SHAHID ALAM
PRIMARY EXAMINER